Appendix B
Meteorological Data

This section contains meteorological data derived from various regulatory and non-regulatory sites. The data provides a comparative analysis of winds speed, wind direction, wind gusts and concentration data. Please note that meteorological instruments measure at different heights, and at different time intervals. By taking, the actual time of measurement and assuring that all data represented is in Pacific Standard Time (PST) there is uniformity of the data. In addition, not all stations measure at the exact same time, i.e. measurements at 0:53 and 0:56 therefore, comparisons are measurements within a 60-minute period. While there may be some overlapping and slight differences the comparative analysis provides the reader with a better understanding of regional effect of the Exceptional Event.

FIGURE B-1
METEOROLOGICAL SITES WITHIN IMPERIAL, RIVERSIDE AND YUMA COUNTIES

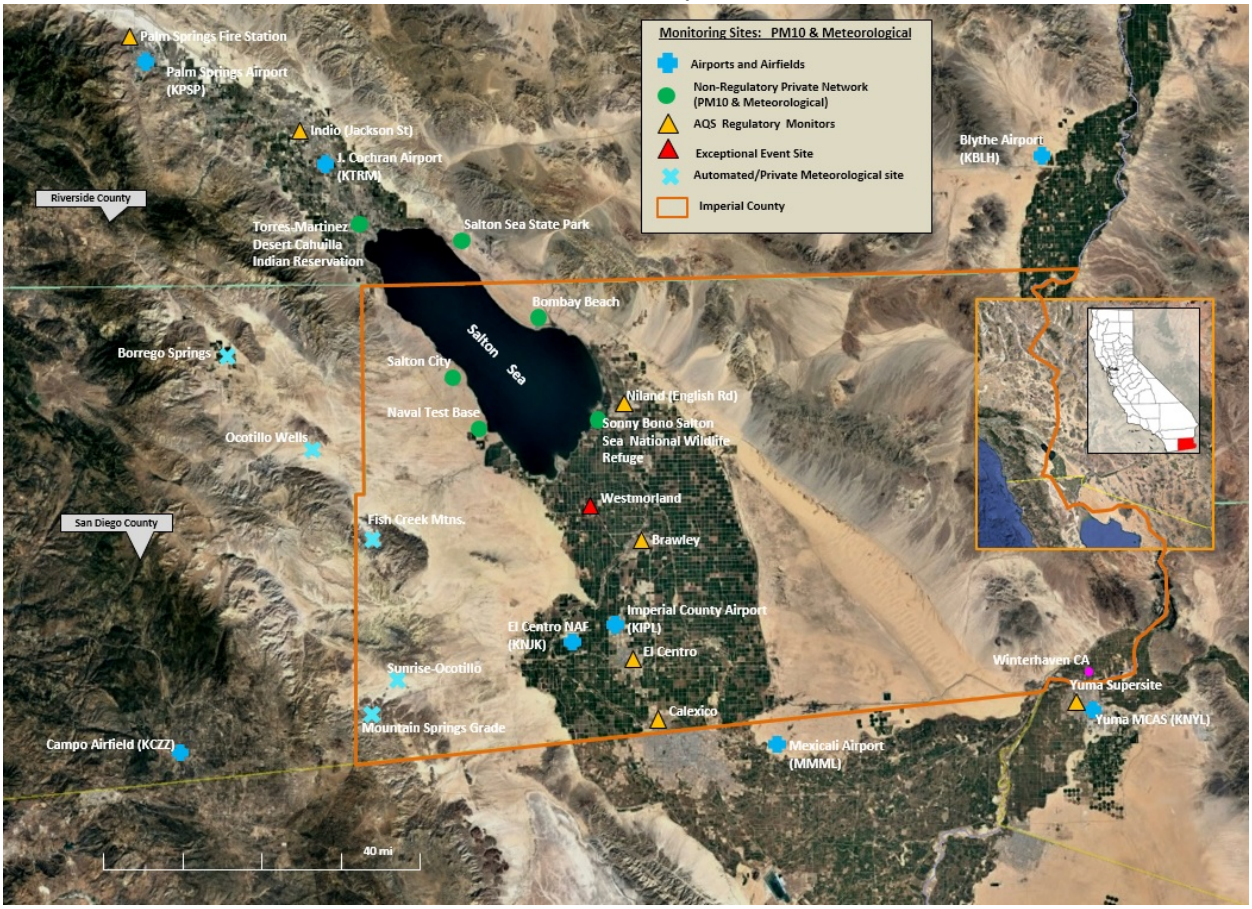


Fig B-1: Depicts the meteorological and air quality monitoring stations referenced in this document. Base map from Google Earth

IMPERIAL COUNTY SITES
FIGURES B-2 THROUGH B-6

FIGURE B-2
IMPERIAL COUNTY AIRPORT (KIPL)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

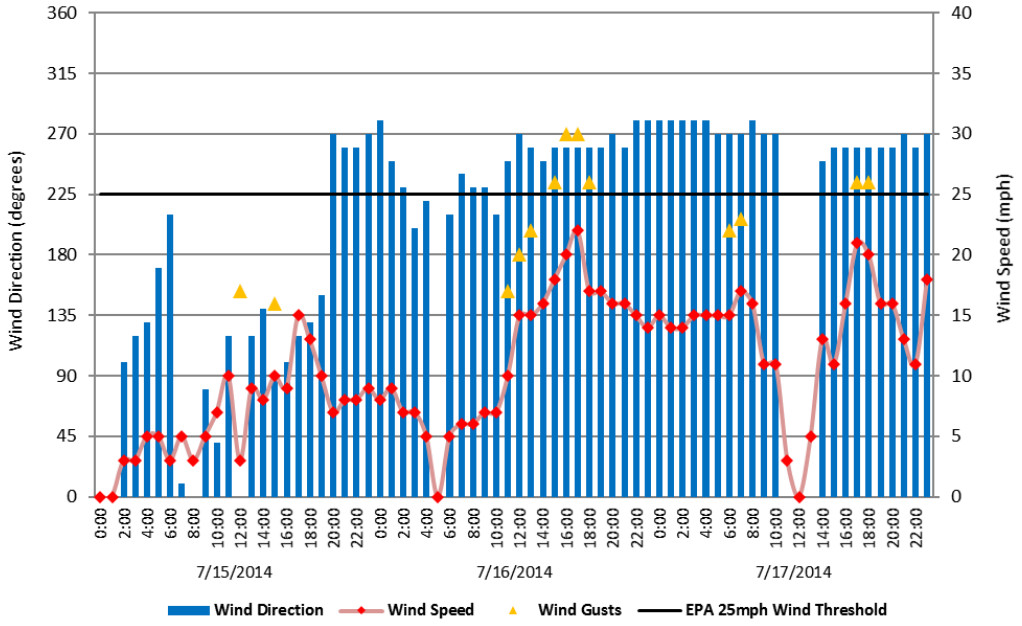
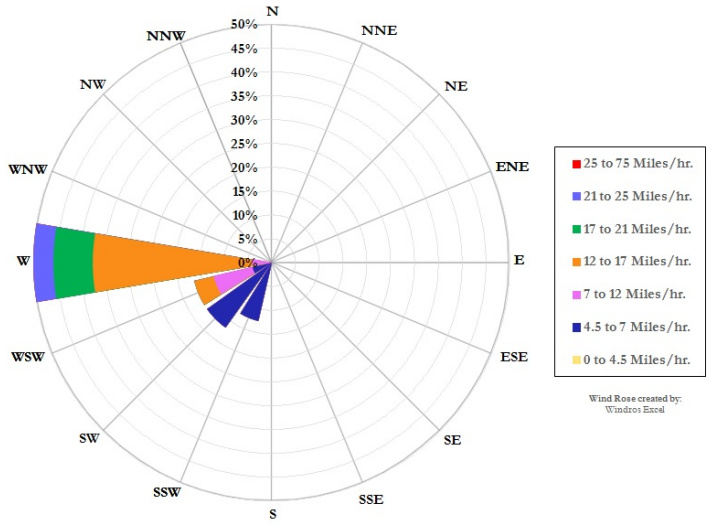


FIGURE B-3
IMPERIAL COUNTY AIRPORT (KIPL) WIND ROSE JULY 16, 2014



Figs B-2 & B-3: Imperial Airport meteorological data shows a dramatic increase in wind speed accompanied by gusts of 30 mph during the afternoon of July 16, 2014. The wind rose shows a predominant westerly direction. Wind data from the NCEI's QCLCD system

FIGURE B-4
EL CENTRO NAF (KNJK)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

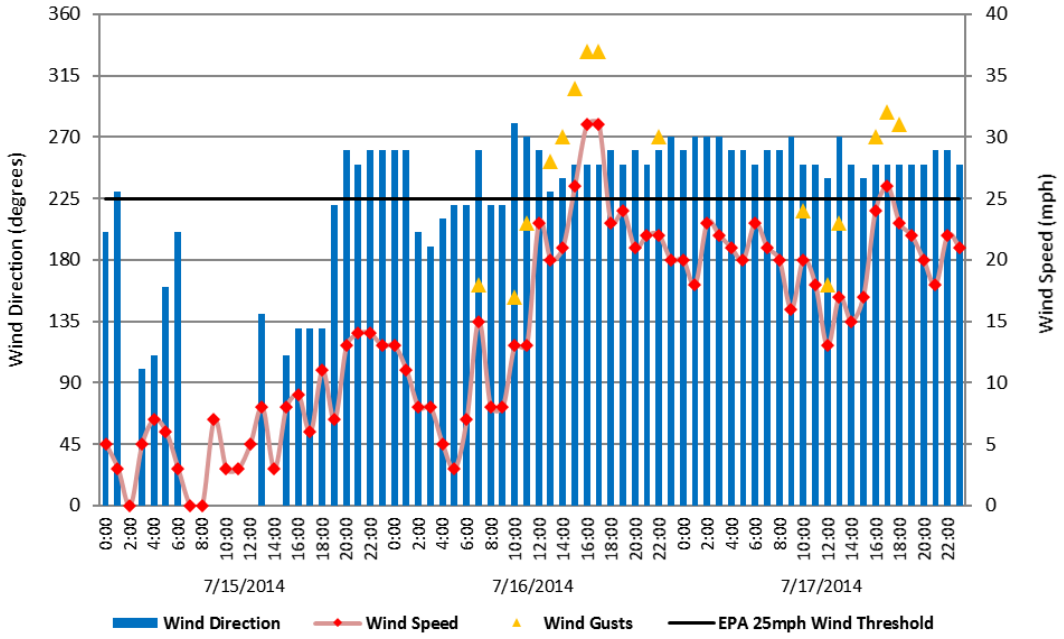
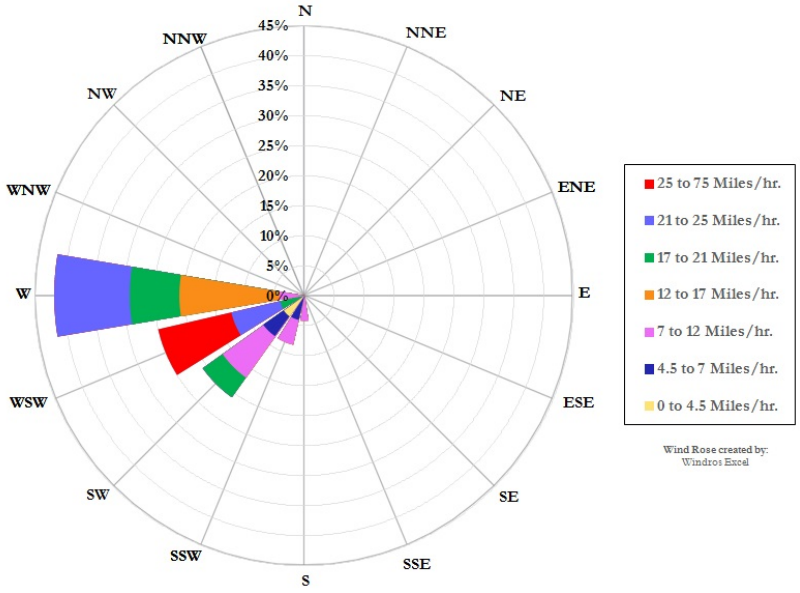


FIGURE B-5
EL CENTRO NAF (KNJK) WIND ROSE JULY 16, 2014



Figs B-4 & B-5: El Centro NAF meteorological data shows a dramatic increase in wind speed accompanied by gusts over 35 mph during the afternoon of July 16, 2014. The wind rose shows a predominant westerly direction. Wind data from the NCEI's QCLCD system

FIGURE B-6
CALEXICO
WIND SPEED (AVERAGES) & DIRECTION

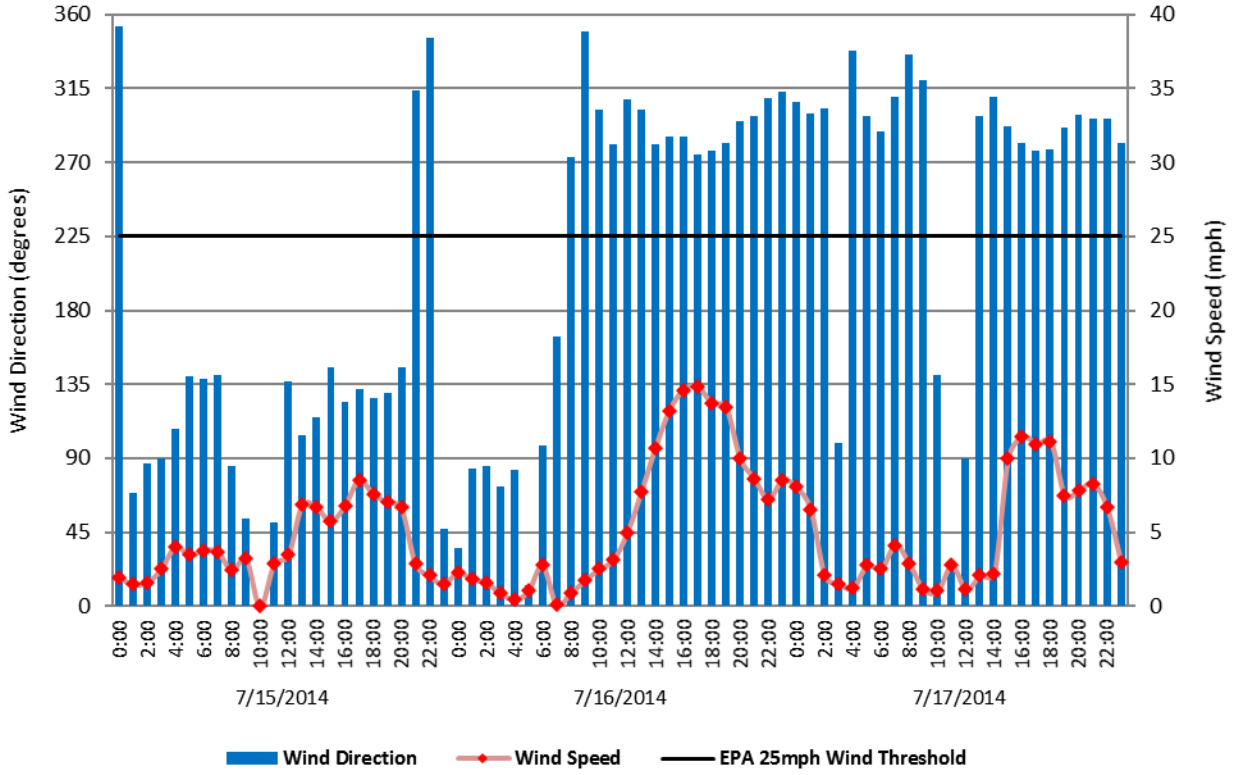
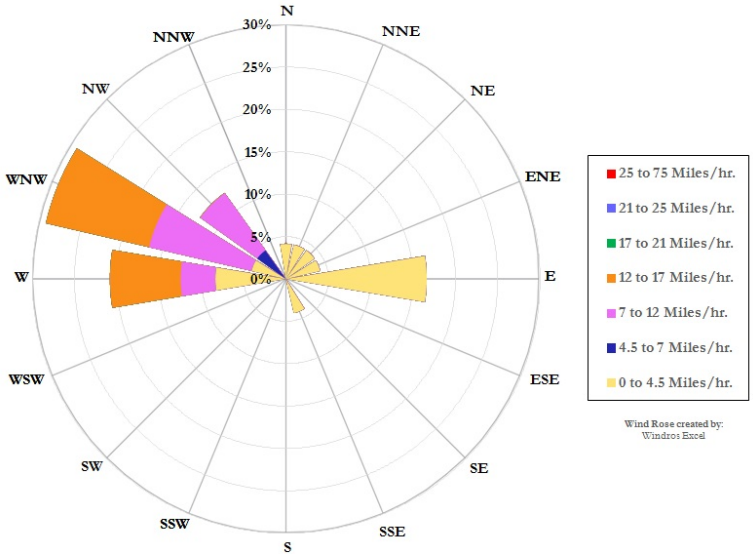


FIGURE B-7
CALEXICO WIND ROSE JULY 16, 2014



Figs B-6 & B-7: Wind data from the EPA'S AQS data bank

FIGURE B-8
EL CENTRO
WIND SPEED (AVERAGES) & DIRECTION

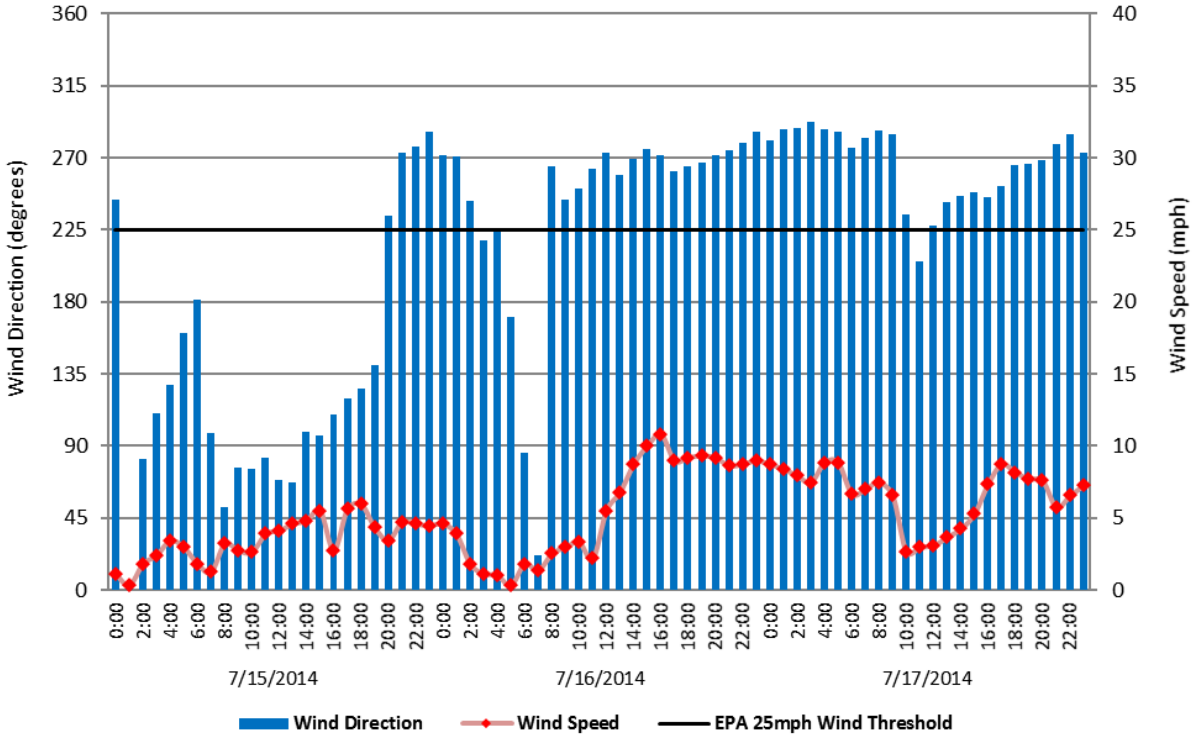
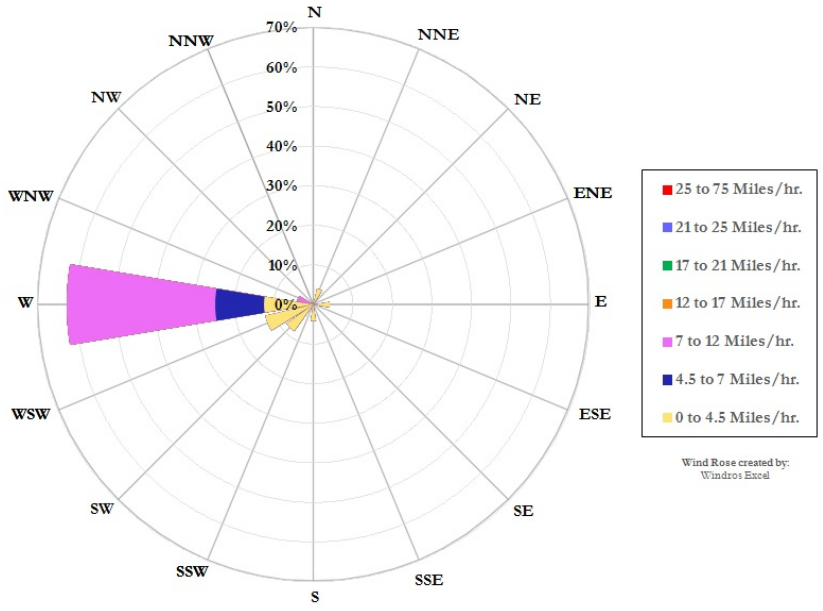


FIGURE B-9
EL CENTRO WIND ROSE JULY 16, 2014



Figs B-8 & B-9: Wind data from the EPA'S AQS data bank

FIGURE B-10
NILAND
WIND SPEED (AVERAGES) & DIRECTION

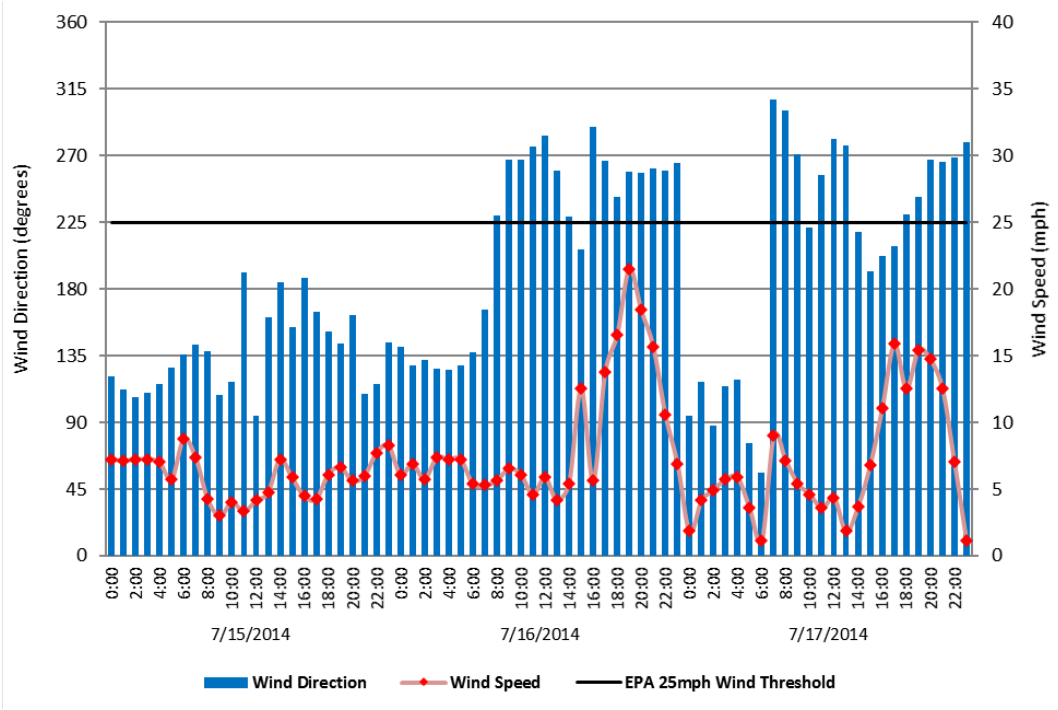
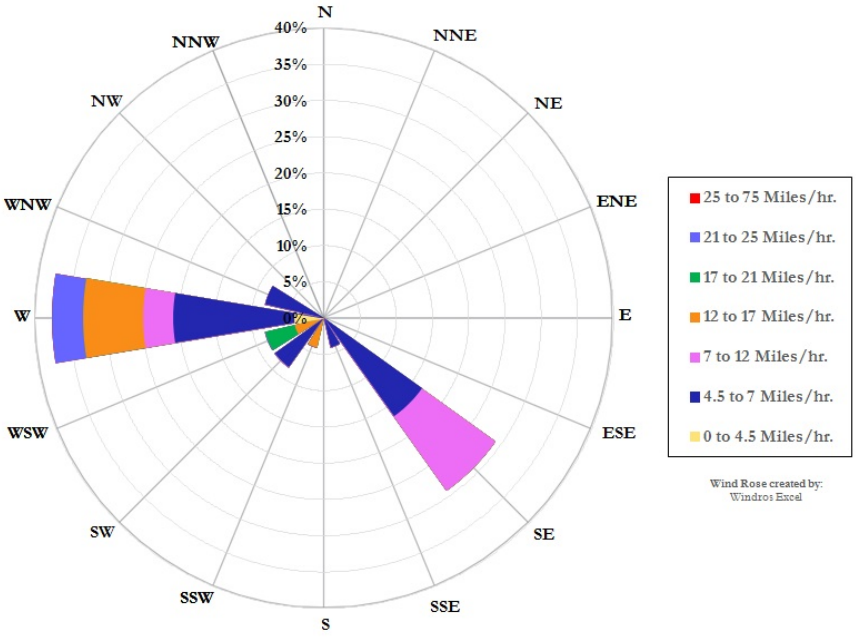


FIGURE B-11
NILAND WIND ROSE JULY 16, 2014



Figs B-10 & B-11: Wind data from the EPA'S AQS data bank

RIVERSIDE COUNTY SITES

FIGURE B-12
PALM SPRINGS AIRPORT (KPSP)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

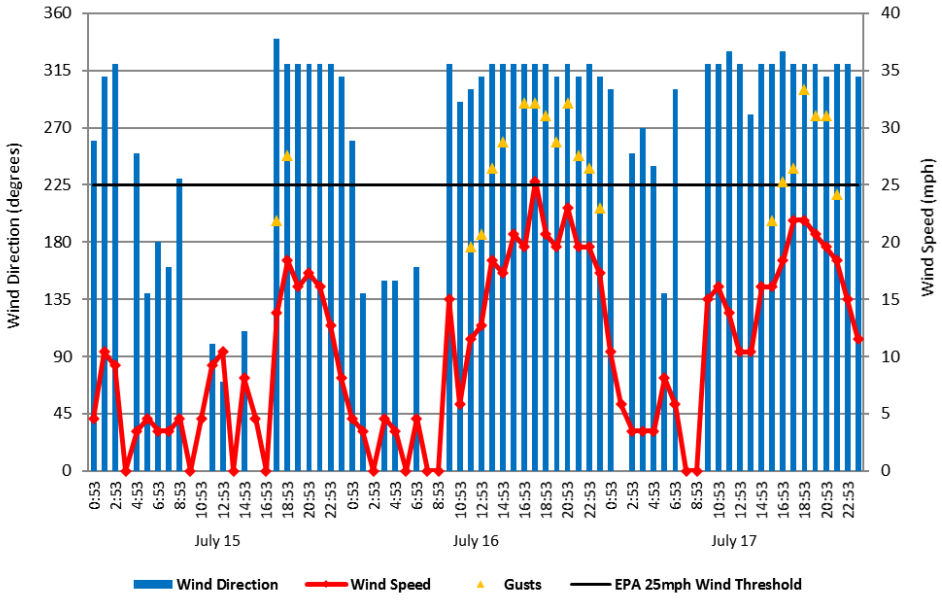


Fig B-12: Wind data from the University of Utah's MesoWest system

FIGURE B-13
JACQUELINE COCHRAN AIRPORT (KTRM)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

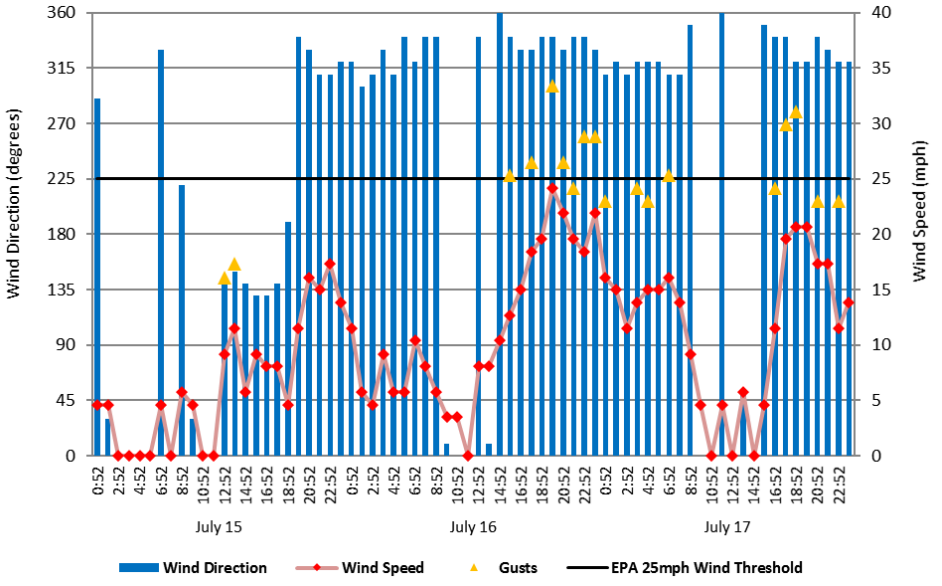


Fig B-13: Wind data from the University of Utah's MesoWest system

FIGURE B-14
BLYTHE AIRPORT (KBLH)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

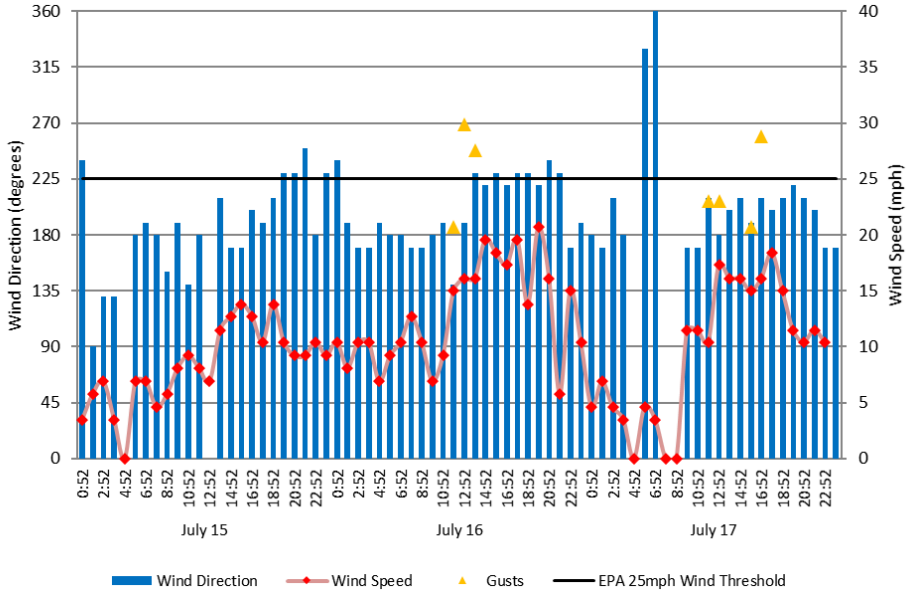


Fig B-14: Wind data from the University of Utah's MesoWest system

SOUTHWESTERN ARIZONA

FIGURE B-15
YUMA, ARIZONA MCAS (KNYL)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

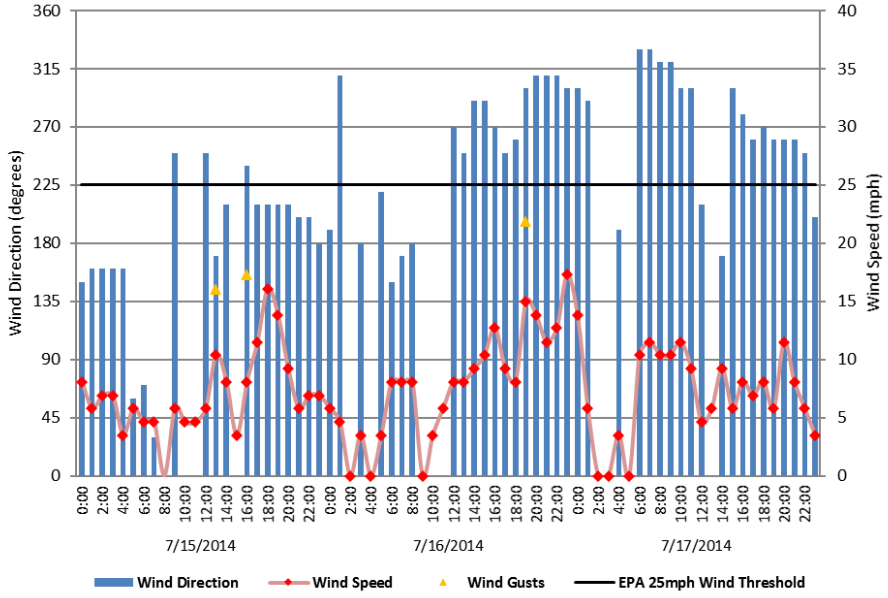


Fig B-15: Wind data from the University of Utah's MesoWest system

SAN DIEGO COUNTY SITES

FIGURE B-16
CAMPO AIRPORT (KCZZ)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

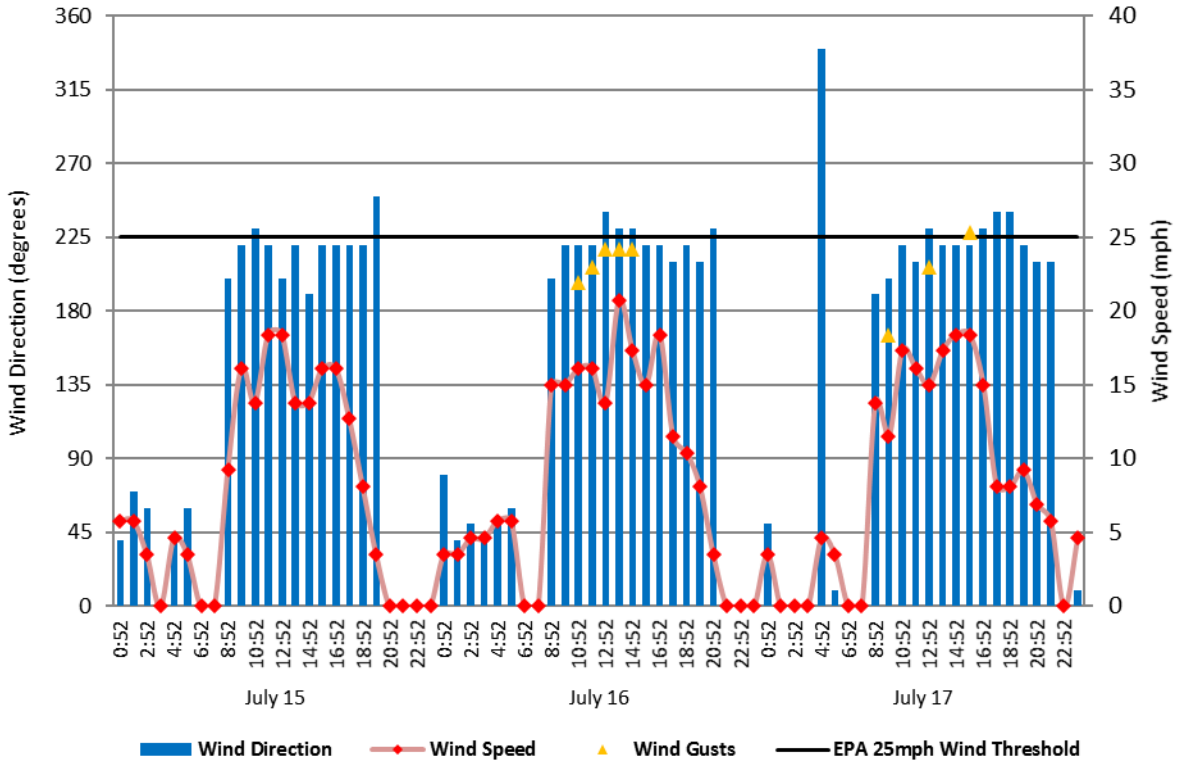
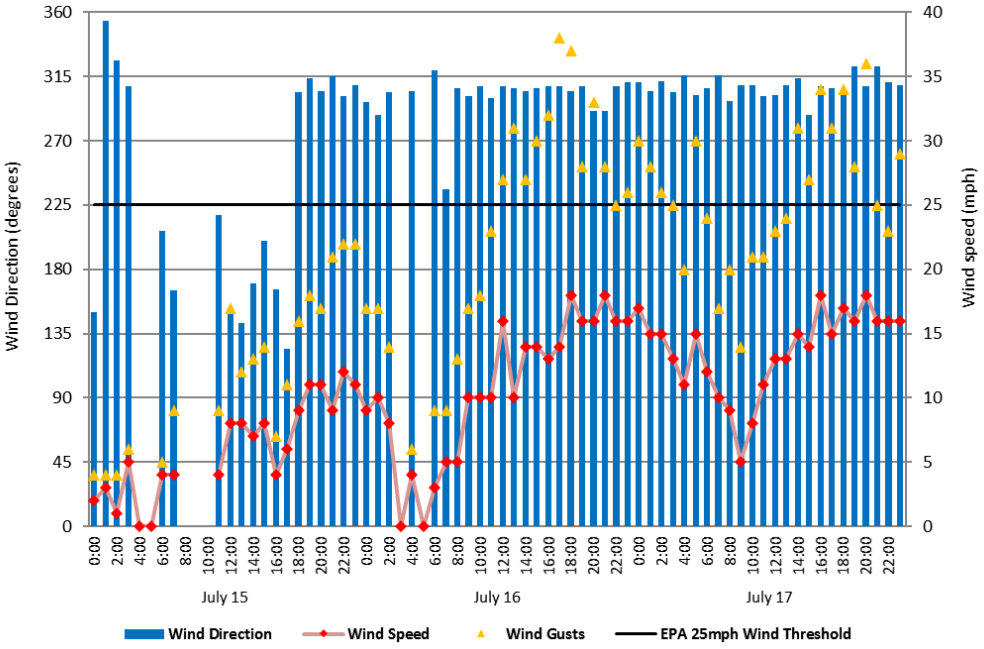


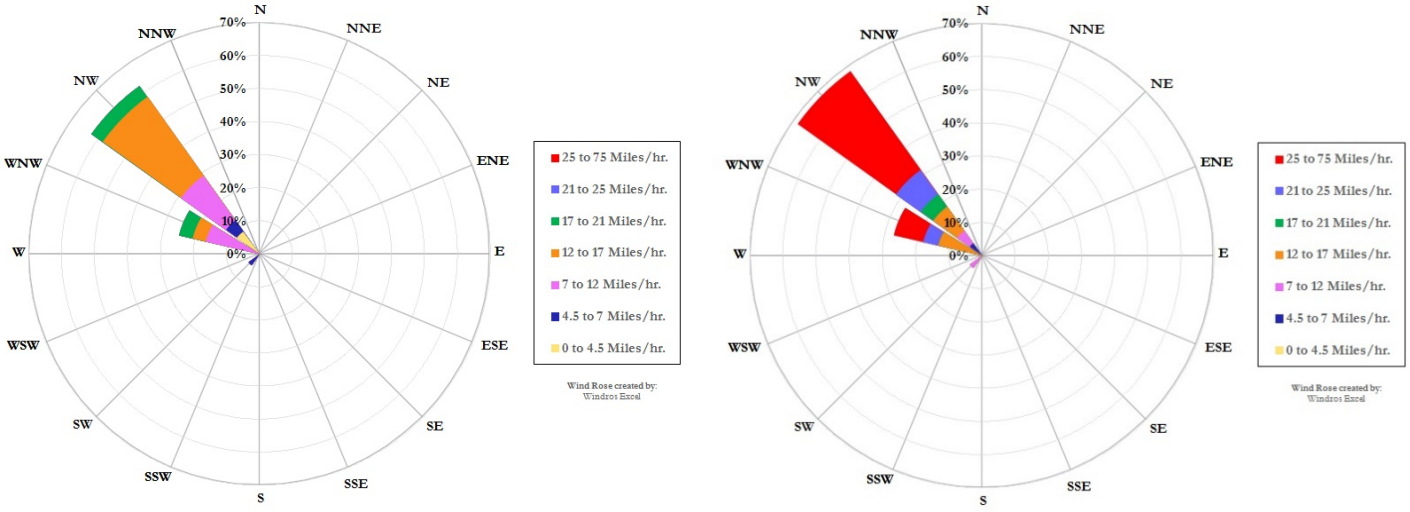
Fig B-16: Wind data from the University of Utah's MesoWest system

UPSTREAM WIND SITES

FIGURE B-17
OCOTILLO WELLS
WIND SPEED (AVERAGES), GUSTS & DIRECTION

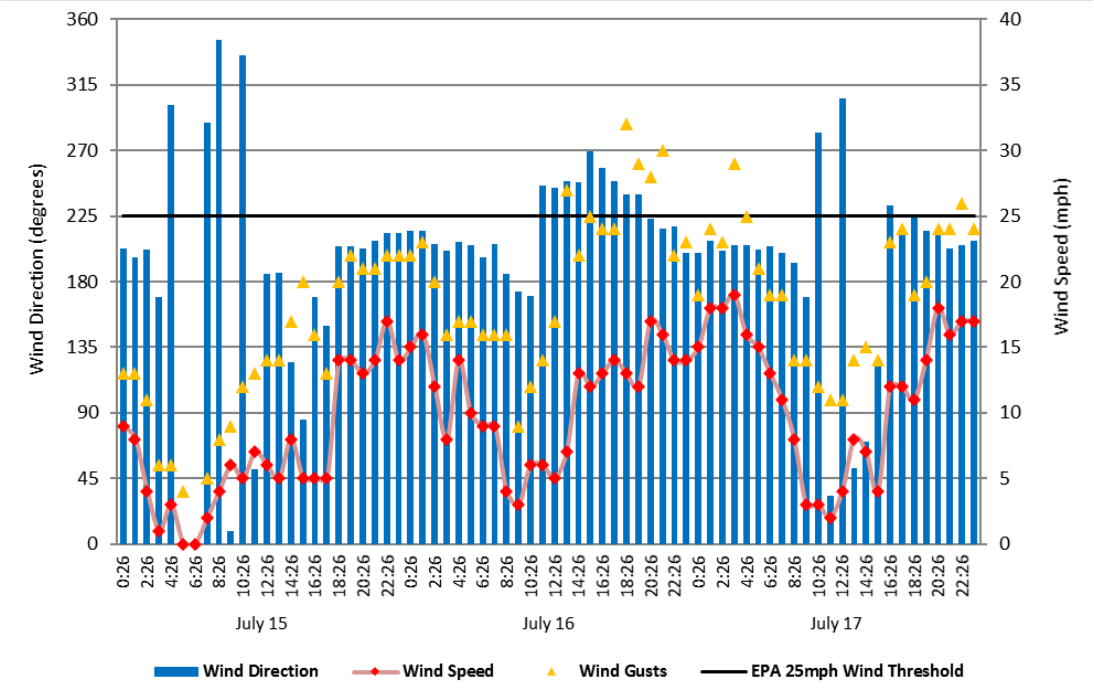


FIGURES B-18 & B-19
OCOTILLO WELLS WIND ROSE JULY 16, 2014

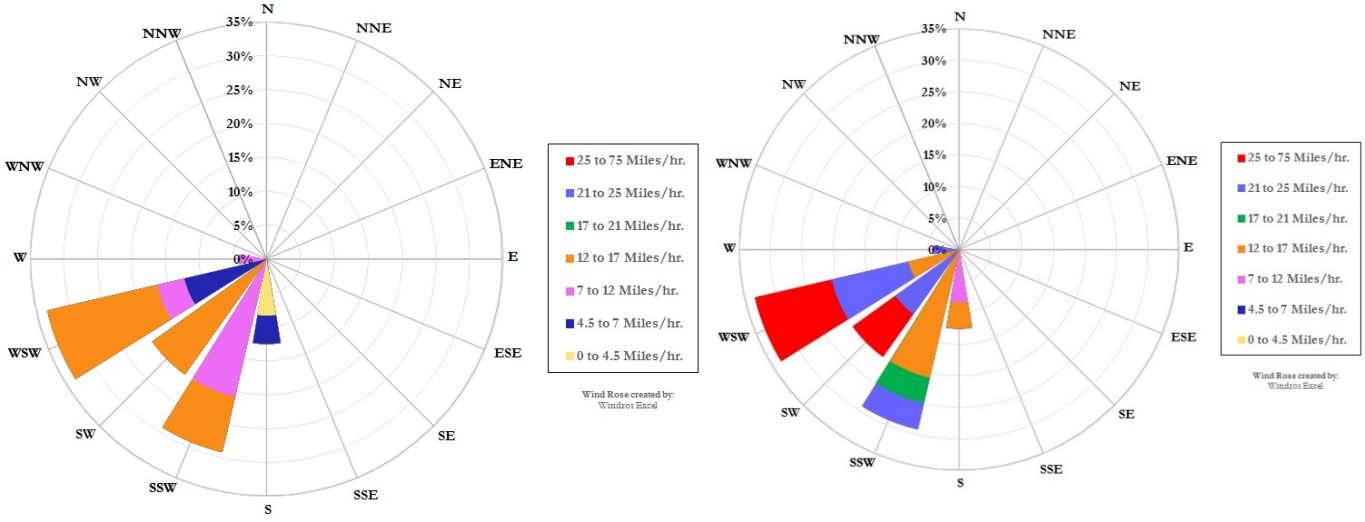


Figs B-17 to B-19: The left wind rose is depicts wind speed and direction, while the right rose depicts gusts and direction. Wind data from the University of Utah's MesoWest system. Station ID: KD6RSQ-5/AS398

FIGURE B-20
FISH CREEK MOUNTAINS
WIND SPEED (AVERAGES), GUSTS & DIRECTION

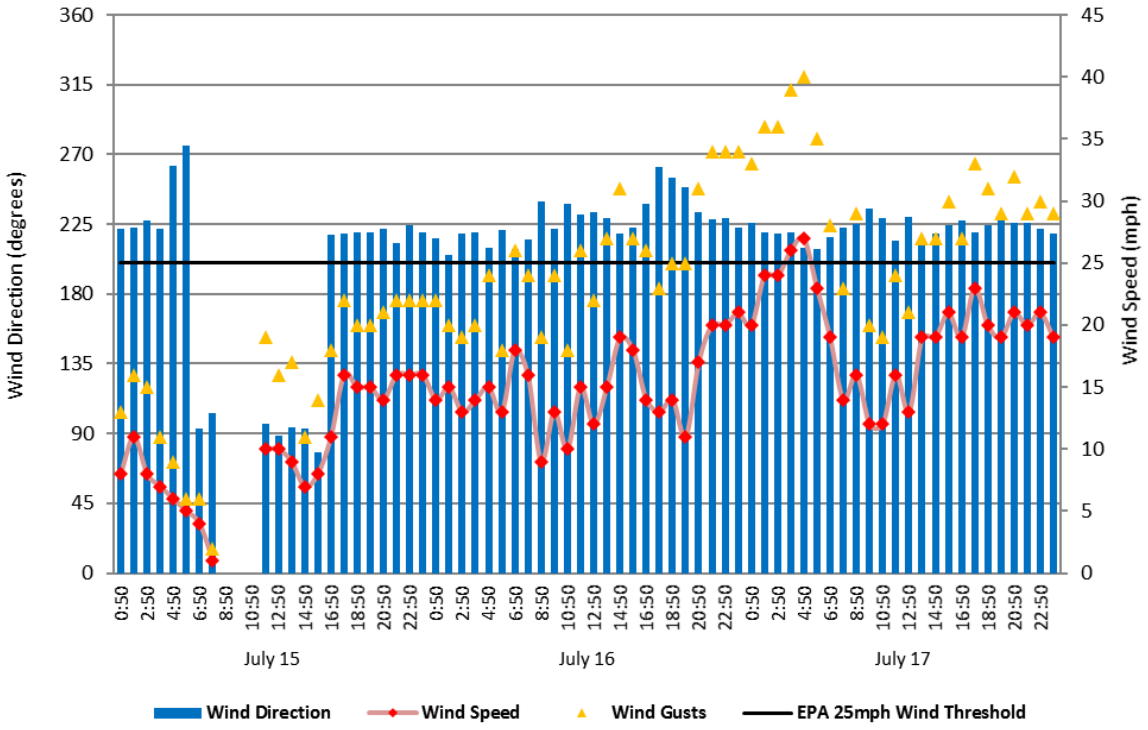


FIGURES B-21 & B-22
FISH CREEK MOUNTAINS WIND ROSE JULY 16, 2014

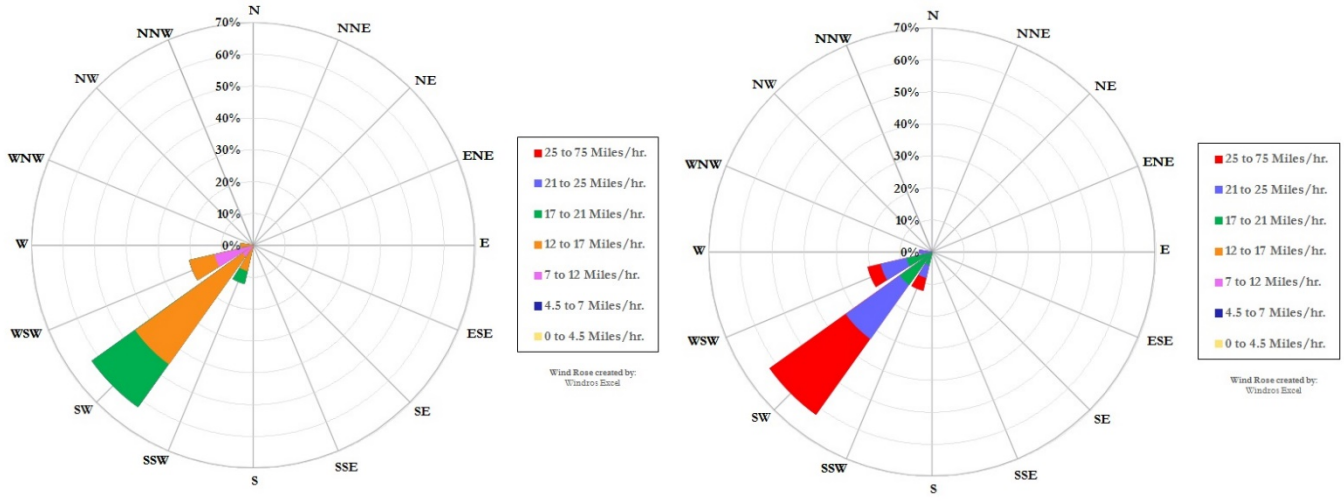


Figs B-21 to B-22: The left wind rose depicts wind speed and direction, while the right rose depicts gusts and direction. Wind data from the University of Utah's MesoWest system. Station ID: FHCC1

FIGURE B-23
SUNRISE-OCOTILLO
WIND SPEED (AVERAGES), GUSTS & DIRECTION



FIGURES B-24 & B-25
SUNRISE-OCOTILLO WIND ROSE JULY 16, 2014



Figs B-23 to B-25: The left wind rose depicts wind speed and direction, while the right rose depicts gusts and direction. Wind data from the University of Utah's MesoWest system. Station ID: IMPSD

FIGURE B-26
MT. LAGUNA (FORMER USAF SITE)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

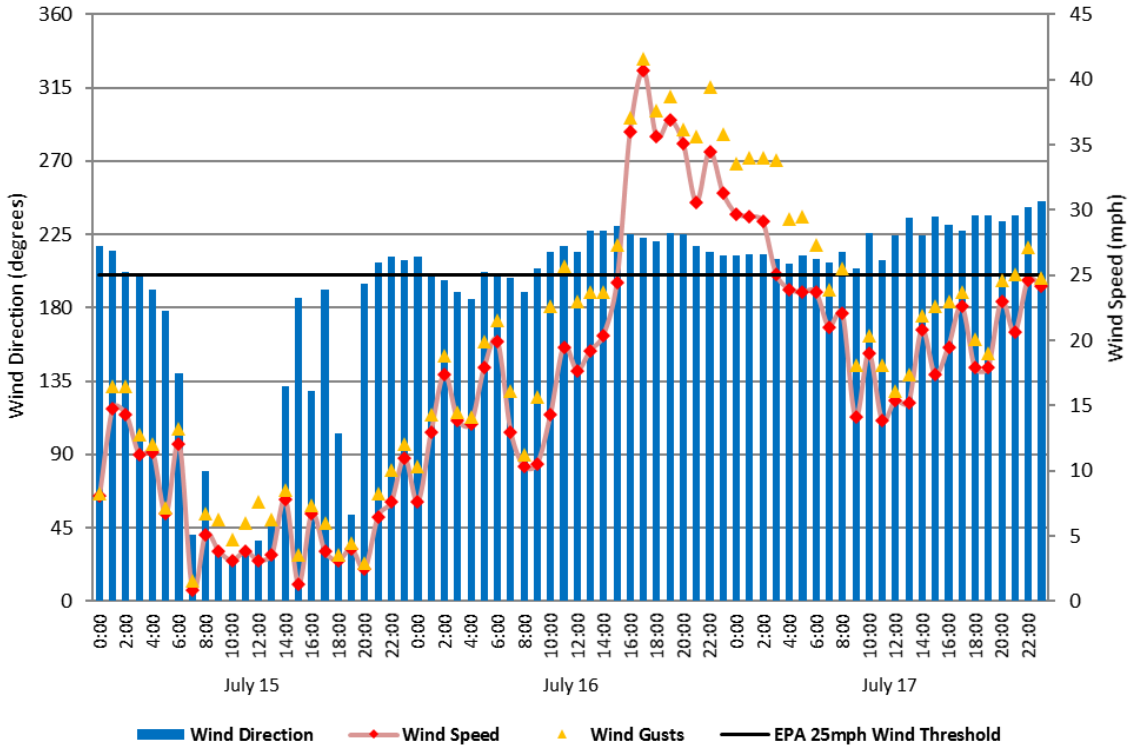
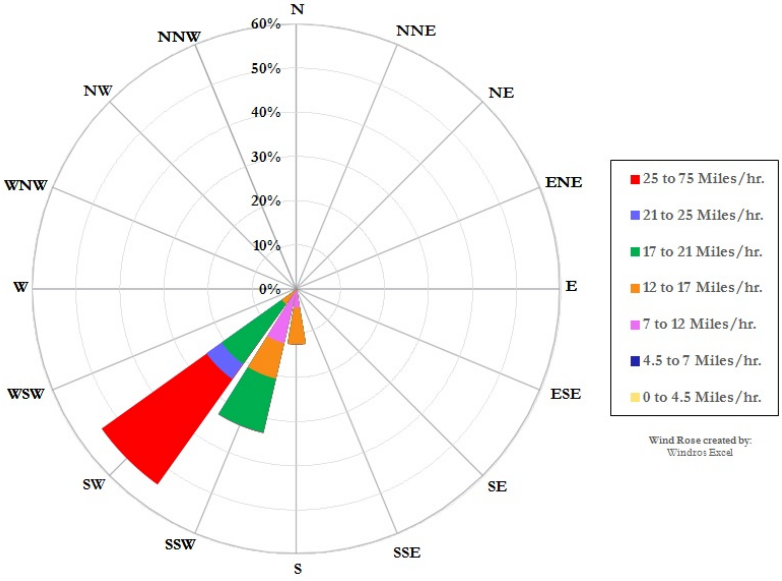


FIGURE B-27
MT. LAGUNA WIND ROSE JULY 16, 2014



Figs B-26 & B-27: Mt. Laguna (the former USAF site) is in the San Diego mountains. Wind data from the University of Utah's MesoWest system. Station ID: HP0001

FIGURE B-28
MOUNTAIN SPRINGS GRADE
WIND SPEED (AVERAGES), GUSTS & DIRECTION

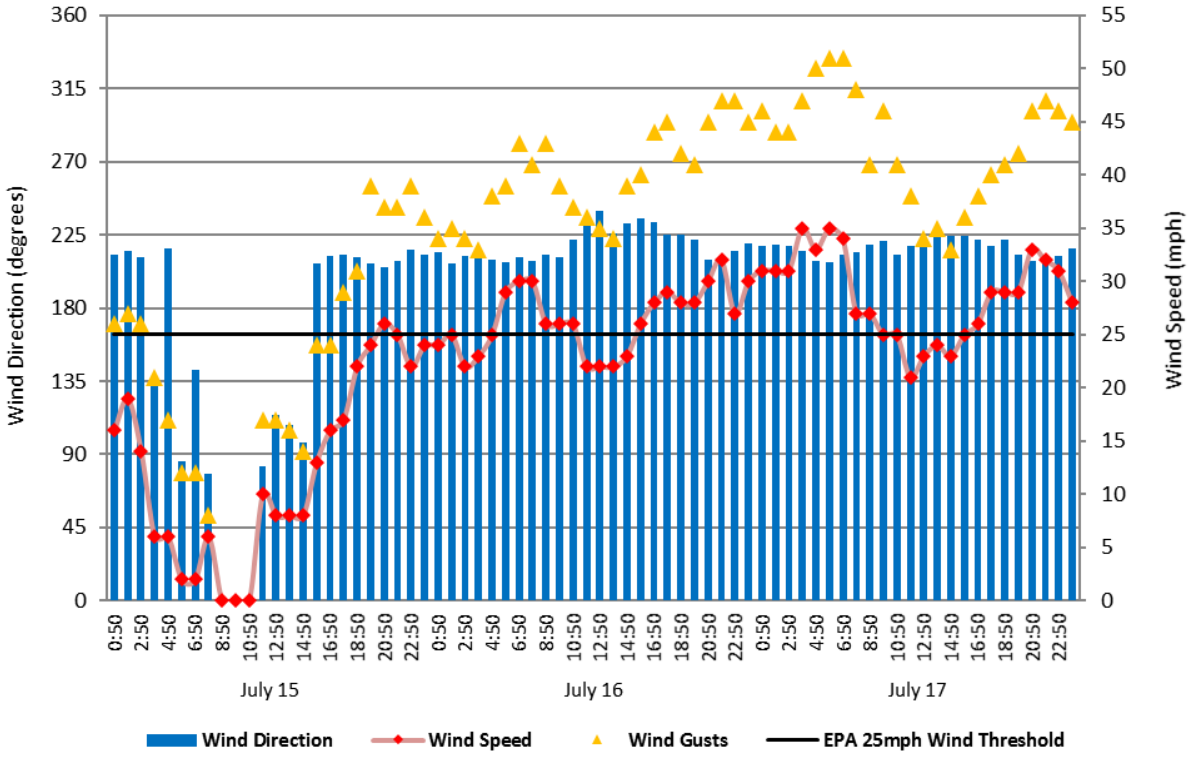
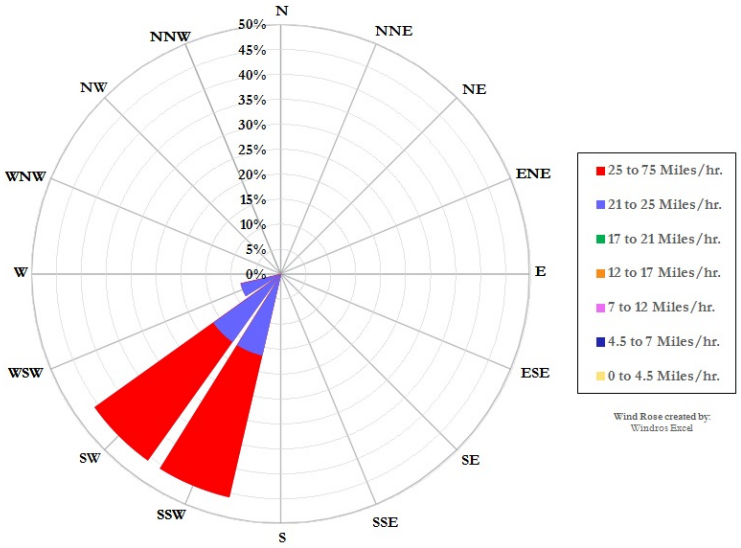


FIGURE B-29
MOUNTAIN SPRINGS GRADE WIND ROSE JULY 16, 2014



Figs B-28 & B-29: Mountain Springs Grade is on the desert slopes (elev. 2, 044 ft). Wind data from the University of Utah's MesoWest system. Station ID: TNSC1

FIGURE B-30
IMPERIAL COUNTY AIRPORT QCLCD DATA

QUALITY CONTROLLED Local Climatological Data: IMPERIAL COUNTY AIRPORT

U.S. Department of Commerce
National Oceanic & Atmospheric Administration

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA (final) HOURLY OBSERVATIONS TABLE IMPERIAL COUNTY AIRPORT (03144) IMPERIAL, CA (07/2014)

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801

Elevation: -58 ft. below sea level
Latitude: 32.834
Longitude: -115.578
Data Version: VER2

Date	Time (LST)	Station Type	Sky Conditions	Visibility (SM)	Weather Type	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Humd %	Wind Speed (MPH)	Wind Dir	Wind Gusts (MPH)	Station Pressure (in. hg)	Press Tend	Net 3-hr Chg (mb)	Sea Level Pressure (in. hg)	Report Type	Precip. Total (in)	Alti-meter (in. hg)
						(F)	(C)	(F)	(C)	(F)	(C)											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	0053	12	CLR	10.00		83	28.3	61	16.2	44	6.7	25	8	280		29.87			29.81	AA		29.81
16	0153	12	CLR	10.00		82	27.8	60	15.7	43	6.1	25	9	250		29.86			29.80	AA		29.80
16	0253	12	CLR	10.00		80	26.7	60	15.8	45	7.2	29	7	230		29.87			29.81	AA		29.81
16	0353	12	CLR	10.00		79	26.1	62	16.5	49	9.4	35	7	200		29.87			29.81	AA		29.81
16	0453	12	CLR	10.00		76	24.4	62	16.6	52	11.1	43	5	220		29.88			29.82	AA		29.82
16	0553	12	CLR	10.00		81	27.2	63	17.4	51	10.6	35	0	000		29.88			29.82	AA		29.82
16	0653	12	CLR	10.00		88	31.1	65	18.5	50	10.0	27	5	210		29.90			29.85	AA		29.84
16	0753	12	CLR	10.00		93	33.9	63	17.4	40	4.4	16	6	240		29.91			29.85	AA		29.85
16	0853	12	CLR	10.00		96	35.6	63	17.4	37	2.8	13	6	230		29.91			29.85	AA		29.85
16	0953	12	CLR	10.00		99	37.2	64	18.0	37	2.8	12	7	230		29.90			29.84	AA		29.84
16	1053	12	CLR	10.00		102	38.9	67	19.2	41	5.0	12	7	210		29.89			29.83	AA		29.83
16	1153	12	CLR	10.00		105	40.6	66	18.8	35	1.7	9	10	250	17	29.88			29.82	AA		29.82
16	1253	12	CLR	10.00		106	41.1	67	19.4	38	3.3	10	15	270	20	29.85			29.79	AA		29.79
16	1353	12	CLR	10.00		106	41.1	67	19.5	39	3.9	10	15	260	22	29.83			29.77	AA		29.77
16	1453	12	CLR	10.00		106	41.1	68	19.7	40	4.4	10	16	250		29.80			29.74	AA		29.74
16	1553	12	CLR	10.00		104	40.0	68	19.9	43	6.1	13	18	260	26	29.78			29.72	AA		29.72
16	1653	12	CLR	10.00		100	37.8	66	18.6	40	4.4	13	20	260	30	29.77			29.71	AA		29.71
16	1753	12	CLR	10.00		95	35.0	62	16.9	35	1.7	12	22	260	30	29.78			29.72	AA		29.72
16	1853	12	CLR	10.00		91	32.8	61	16.1	35	1.7	14	17	260	26	29.80			29.74	AA		29.74
16	1953	12	CLR	10.00		89	31.7	62	16.4	39	3.9	17	17	260		29.81			29.75	AA		29.75
16	2053	12	CLR	10.00		87	30.6	61	15.8	38	3.3	18	16	270		29.83			29.77	AA		29.77
16	2153	12	CLR	10.00		86	30.0	62	16.3	42	5.6	21	16	260		29.83			29.78	AA		29.77
16	2253	12	CLR	10.00		85	29.4	60	15.8	40	4.4	20	15	280		29.84			29.78	AA		29.78
16	2353	12	CLR	10.00		85	29.4	59	15.2	37	2.8	18	14	280		29.83			29.77	AA		29.77

Dynamically generated Thu Dec 17 17:04:49 EST 2015 via http://www.ncdc.noaa.gov/qclcd/QCLCD

FIGURE B-31
EL CENTRO NAF QCLCD DATA

QUALITY CONTROLLED Local Climatological Data: NAF

U.S. Department of Commerce
National Oceanic & Atmospheric Administration

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA (may be updated) HOURLY OBSERVATIONS TABLE NAF (23199) EL CENTRO, CA (07/2014)

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801

Elevation: -42 ft. below sea level
Latitude: 32.816
Longitude: -115.683
Data Version: VER2

Date	Time (LST)	Station Type	Sky Conditions	Visibility (SM)	Weather Type	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Humd %	Wind Speed (MPH)	Wind Dir	Wind Gusts (MPH)	Station Pressure (in. hg)	Press Tend	Net 3-hr Chg (mb)	Sea Level Pressure (in. hg)	Report Type	Precip. Total (in)	Alti-meter (in. hg)
						(F)	(C)	(F)	(C)	(F)	(C)											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	0056	5	CLR	10.00		87	30.6	61	16.0	39	3.9	18	13	260		29.85			29.85	AA		29.81
16	0156	5	CLR	10.00		86	30.0	60	15.6	38	3.3	18	11	260		29.84			29.85	AA		29.80
16	0256	5	CLR	10.00		84	28.9	60	15.4	39	3.9	20	8	200		29.85			29.85	AA		29.81
16	0356	5	CLR	10.00		81	27.2	63	17.1	50	10.0	34	8	190		29.85			29.85	AA		29.81
16	0456	5	FEW100 SCT250	10.00		81	27.2	63	17.4	51	10.6	35	5	210		29.86			29.86	AA		29.82
16	0556	5	FEW250	10.00		86	30.0	63	17.2	46	7.8	25	3	220		29.87			29.87	AA		29.83
16	0656	5	FEW250	10.00		90	32.2	64	17.8	45	7.2	21	7	220		29.89			29.89	AA		29.85
16	0756	5	FEW250	10.00		96	35.6	61	16.0	27	-2.8s	8	15	260	18	29.90			29.90	AA		29.86
16	0856	5	FEW250	10.00		99	37.2	63	17.1	31	-0.6	9	8	220		29.89			29.90	AA		29.85
16	0956	5	FEW250	10.00		101	38.3	65	18.3	37	2.8	11	8	220		29.88			29.89	AA		29.84
16	1056	5	FEW250	10.00		104	40.0	64	17.7	28	-2.2	7	13	280	17	29.87			29.88	AA		29.83
16	1156	5	FEW080 FEW250	10.00		106	41.1	65	18.1	28	-2.2	6	13	270	23	29.86			29.86	AA		29.82
16	1256	5	FEW250	10.00		108	42.2	67	19.3	35	1.7	8	23	260		29.84			29.84	AA		29.80
16	1356	5	CLR	10.00		108	42.2	67	19.3	35	1.7	8	20	230	28	29.81			29.82	AA		29.77
16	1456	5	CLR	10.00		108	42.2	67	19.3	35	1.7	8	21	240	30	29.79			29.79	AA		29.75
16	1556	5	CLR	10.00		106	41.1	66	19.1	36	2.2	9	26	250	34	29.77			29.78	AA		29.73
16	1656	5	CLR	6.00	BLDU	102	38.9	64	17.6	31	-0.6	8	31	250	37	29.77			29.77	AA		29.73
16	1756	5	CLR	6.00	BLDU	98	36.7	62	16.5	28	-2.2	8	31	250	37	29.77			29.78	AA		29.73
16	1856	5	CLR	6.00	BLDU	94	34.4	62	16.4	33	0.6	12	23	260		29.79			29.79	AA		29.75
16	1956	5	CLR	10.00		91	32.8	61	16.2	36	2.2	14	24	250		29.80			29.81	AA		29.76
16	2056	5	CLR	10.00		89	31.7	61	16.2	38	3.3	17	21	260		29.82			29.82	AA		29.78
16	2156	5	CLR	10.00		88	31.1	62	16.4	40	4.4	18	22	250		29.82			29.82	AA		29.78
16	2256	5	CLR	10.00		87	30.6	61	16.0	39	3.9	18	22	260	30	29.83			29.83	AA		29.79
16	2356	5	CLR	10.00		86	30.0	59	15.1	35	1.7	16	20	270		29.82			29.82	AA		29.78

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